CLAIMS

What is claimed is:

1. A drying apparatus comprising:

a drying furnace containing therein hot plates, disposed in a plurality of stages in a vertical direction, on each of which is seated a platelike workpiece;

a gateway for the workpiece, said gateway being disposed on a front side of said drying furnace and being normally left open to face said plurality of stages of hot plates;

a chamber casing disposed on a rear side of said drying furnace; and

an exhaust chamber defined in said chamber casing, said exhaust chamber comprising a flow dividing plate having formed therein a plurality of ventilation holes each facing a gap between said plurality of stages of hot plates, said exhaust chamber being forcibly exhausted by exhaust means.

2. The drying apparatus according to claim 1, wherein said exhaust chamber comprises a plurality of exhaust ports which are disposed in vertical stages for connection to said exhaust means.

3. The drying apparatus according to claim 1, wherein said chamber casing is mounted on a rear side of said drying furnace so as to be capable of opening and closing such that each of said hot plates can be replaced through a rear opening of said drying furnace to be opened by opening said chamber casing.

4. The drying apparatus according to claim 3, further comprising rail members fixed, in a plurality of vertical stages, to an inside of side walls of said drying furnace, said rail members being engageable with side edges of each of said hot plates such that said hot plates are slidable in a back and forth direction.

5. The drying apparatus according to claim 1, further comprising a lifting mechanism for supporting said plural stages of hot plates by selectively lifting a workpiece off from said plural stages of hot plates, said lifting mechanism comprises:

a vertically elongated lifting member which is disposed on an outside of a side wall of said drying furnace so as to be movable up and down;

engaging members which are disposed in a plurality of vertical stages on an inside of said side wall so as to be engageable with a lower surface of side edges of the workpiece, said side edges being protruding beyond a workpiece seating surface of each of said hot plates; and

a reciprocating mechanism which connects said engaging members to said lifting member so as to be independently movable back and forth between an operating position falling inside a vertical projected area of said side edges of the workpiece and a retracted position outside of said projected area.

6. A workpiece processing apparatus comprising a plurality of processing units each comprising:

an imaging apparatus for coating a platelike workpiece with liquid droplets by using a liquid droplet ejection head;

a drying apparatus for drying the liquid droplets coated on the workpiece; and

a workpiece transport apparatus interposed between respective pair of said processing units so that the workpiece processed in each of said processing units is sequentially sent to a subsequent processing unit through said workpiece transport apparatus,

wherein the drying apparatus as set forth in claim 1 is used as said drying apparatus.

7. The workpiece processing apparatus according to claim 6, wherein the workpiece is a substrate for a color filter, and wherein said imaging apparatus introduces a function liquid containing therein a filter material into said liquid droplet ejection head and coats a multiplicity of pixel

element regions on the substrate with function liquid droplets which form filter elements.

8. The workpiece processing apparatus according to claim 6, wherein the workpiece is a substrate for an organic EL device, and wherein said imaging apparatus introduces a function liquid containing therein an emitting function material into said liquid droplet ejection head and coats a multiplicity of pixel element regions on the substrate with function liquid droplets which form EL function layers.

9. The workpiece processing apparatus according to claim 6, wherein the workpiece is a substrate for a plasma display device, and wherein said imaging apparatus introduces a function liquid containing therein a metallic wiring material into said liquid droplet ejection head and coats a multiplicity of pixel element regions on the substrate with function liquid droplets which form element electrode function layers.

10. The workpiece processing apparatus according to claim 6, wherein the workpiece is a substrate for a plasma display device, and wherein said imaging apparatus introduces a function liquid containing therein a fluorescent function material into said liquid droplet ejection head and coats a multiplicity of pixel element regions on the substrate with function liquid droplets which form fluorescent function layers.

11. The workpiece processing apparatus according to claim 6, wherein the workpiece is a substrate for an electron emission device, and wherein said imaging apparatus introduces a function liquid containing therein an electrically conductive function material into said liquid droplet ejection head and coats a multiplicity of pixel element regions on the substrate with function liquid droplets which form electrically conductive function layers.

12. The workpiece processing apparatus according to claim 6, further comprising buffer means for temporarily keeping in stock the workpieces in said workiece transport apparatus, wherein the workpiece is discharged from said drying apparatus when the drying time in said drying apparatus for the workpiece has lapsed a predetermined time.